

UCPF (UCI G'TQWPF/WR)
BEEF STUDY GUIDE
Junior and Intermediate Division
(8 - 13 yrs old as of December 31)

You should know the meaning of the following terms:

Bull - Male animal.

Heifer - Female not yet calved.

Steer - Castrated male.

Crossbred - The produce of two or more breeds.

Castration - Removal of testicles.

Cutability - The amount of red meat in the carcass.

Grade - A judgement based on marbling, age prime, choice, select, standard.

Balanced Ration - A ration which provides the proper amounts and portions of required nutrients.

Palatability - Factors of a feed that effect the consumption of that feed (smell, taste, texture...)

TDN - Total Digestible Nutrients (energy value of a feed stuff).

Cud - The bolus of eaten feed which is regurgitated and further chewed.

Fattening - The deposit of energy in the form of fat within the body tissues.

Interest - The charge made for money you have borrowed.

Expenses - Items that you have purchased for your project, i.e. feed, supplies, equipment, entry fees, etc.

Profit - When your income is a larger number than your expenses.

Loss - When your income is a smaller number than your expenses.

Breakeven - The price per pound you need to cover your total expenses.

Six essential nutrients - Protein, fat, carbohydrates, vitamins, minerals, and water.

Feed Efficiency - Measure of the number of pounds of feed required by cattle to gain one pound.

Divideweight gain of animal by pounds of feed it eats.

Ruminant - Animal that has four stomach compartments (rumen, reticulum, omasum, and abomasum).

Animal Rights - Protection of animals from any type of exploitation or use such as pets or being used in the fair. Extends human rights to animals.

Animal Welfare - Concern for well being of animals for which a person has responsibility.

Animal Liberation - Animals should not be forced to work or produce for our benefit in any way.

Groups believe we should try to eliminate all types of animal use. These groups consider pets a form of enslavement.

You should be familiar with the Colorado ethical care of beef guidelines.

You should be familiar with the "Wholesome Meat Animal Assurance Program"

You should know the minimum weight market steers at the County Fair

You should know some names of different breeds of cattle. Here are a few popular breeds of cattle. Angus, Hereford, Simmental, Charolais, Gelbvieh, Limousin, Short Horn and Salers.

You should know cows graze in "bouts" (continuous periodic, group grazing) between four to fourteen hours daily and walk up to five miles a day for forage.



COLORADO 4-H ETHICAL CARE OF BEEF CATTLE

An understanding of good husbandry is a key component for raising beef-cattle in order to ensure their welfare. The following summary offers some important guidelines for the proper care and handling of your 4-H beef-cattle.

Proper care and handling is critical for all beef animals. Manage project animals in a safe, humane manner. It is important to understand the biological needs and behavioral differences of beef-cattle in order to provide appropriate facilities, training and nutritional management.

Housing

The most important component of adequate housing is a dry resting place. Provide shelter, whether man-made or natural, such as a windbreak. Typical man-made housing includes sheds that provide protection from extreme climate changes. Buildings should be free of sharp edges, wires, nails and so forth. Direct all water runoff away from the housing facility. For the small number of animals tied in an enclosed barn, ventilation should provide fresh air exchange into the facility.

Bedding

Access to clean, dry resting places should be available to cattle. The size of each pen area needs to be large enough for the animal to stand, turn around easily, lie comfortably and have ample room to walk the circumference of the pen with freedom and ease. Provide a minimum of 200 square feet per animal when loose. The minimum space when tying is 8'X8'.

Bedding should be absorbent and free of toxic chemical residues. When animals are tied, clean stalls of urine and feces at least once a day. Replenish bedding or replace frequently. Keep dust levels to a minimum.

Fans and water spray mists keep animals comfortable and at desirable body temperatures. Secure all feeding, cleaning and grooming equipment safely away from livestock.



Feeding and Water

Place cattle on a new diet gradually. Make any increases in total volume of concentrates being fed in small, incremental steps.

When selecting a calf, a 4-H member should consult experienced individuals, such as your Colorado State University Cooperative Extension livestock agent or veterinarian. They can provide guidance in selecting calves that will reach desirable weights by show time.

When penned together, all animals will establish an order of dominance, i.e., "pecking order." It is important to space the feed or separate over-aggressive animals from less-aggressive animals. This ensures each receives an adequate amount of feed.

When hand-feeding twice daily, make sure bunks are long enough to distribute the feed evenly for proper consumption. Each animal should have at least 2 feet of bunk space. All feeders should be free of sharp edges. Feeders should be made of solid materials that can be cleaned easily, such as plastic, rubber, concrete, or smooth wood.

Feed ruminant animals concentrates as the primary component of their diet. The safest nutritional plan for ruminants is a diet that includes sufficient roughage. It is critical to manage the rations to ensure the animals reach the desired end-weight by show date. Your local Cooperative Extension livestock agent can provide information to determine the dietary requirements of beef-cattle.

Locate feed and water so that it does not come in contact with urine, feces and so forth. Store feed in weatherproof buildings and containers to minimize molding or nutrient loss. Do not feed moldy hay or grain to livestock.

Check water supply daily. Scrub buckets or pans clean regularly with water.

Beef-cattle differ in frame-sizes and desired end-weights. You must manage the feed intake for each calf. The following table shows the relationship of frame-size to live-weight for 8-month-old calves. Use the chart to determine the desired weight of a calf at show time. Steer measurements are Beef Improvement Federation guidelines for bulls.

Determining the Relationship of Frame-Size to Live-Weight

*Frame Score	Steers		Heifers	
	Inches	Weight	Inches	Weight
1	37.2	750	36.0	600
2	29.2	850	38.0	700
3	41.2	950	40.1	800
4	43.2	1050	42.1	900
5	45.2	1150	44.1	1000
6	47.2	1250	46.2	1100
7	49.3	1350	48.2	1200

*From: American Simmental Association "Focus 2000" and Beef Improvement Federation Guidelines for Uniform Beef Improvement program.

Handling

Initial human contact with calves can be stressful. It is important for handlers to understand bovine behavior and begin training by using patience. Remember, calves do not understand what handlers expect. For approximately the first month, handlers should spend time with their calves with little or no pressure (physical contact). This gives the animals a chance to accept their new environment and allows handlers an opportunity to learn and understand animal behavior.

Halter cattle low enough on their noses to keep the nosebands out of their eyes but high enough to ensure breathing is not obstructed. A common practice is to leave the halters on calves when they are turned loose. The calf will become accustomed to having pressure from the halter on its head. This will allow the handler an opportunity to catch the calf with little or no stress to the animal. When you use this practice, it is important to check the halter daily to ensure it has not tightened on the calf's nose or become entangled with other animals, fences and so forth. Never tie the leadrope to any part of your body or wrap the lead around your hand or arm. This is extremely dangerous, because calves spook and bolt easily and may drag the handler.

A young 4-H member should not attempt to halter a calf without assistance. Ask for help from an experienced individual who is familiar with cattle behavior. When haltering a calf, it is critical to have a confined area in which it can be restrained and easily haltered with little stress. Halter-breaking should begin at least 3 to 6 months prior to the show date.

When training a calf to lead, it is desirable to prevent it from getting away from its handler. Use many different methods to train a calf to lead without being abusive. Patience is the foundation of training. It is especially important to gain the calf's trust prior to leading. Hot-shots or whips are not acceptable training devices. Most animals do not respond to training, because they are scared and do not understand what the trainer wants to accomplish. Another person behind the calf encourages forward motion.

Spend time combing and brushing your calf to establish trust. This also starts the foundation for a quality haircoat. During the spring and summer months, handlers should incorporate a strict cleaning and grooming schedule.

At least two months prior to show date, tie steers most of the day to allow them to get used to being tied at the show. Use fans to encourage air circulation in the barn. Turn cattle loose at night. It is the responsibility of the handler to walk or turn the steer or heifer loose daily when increasing the amount of time the calf is tied.

Veterinary Care

Sick animals show depressed behavior, lack of appetite for feed or water, are gaunt or bloated, or maintain isolation from other animals. Sick animals should be separated from any contact with other livestock. Any medication should be administered according to a veterinarian's recommendation with complete compliance for withdrawal times. (Refer to General Policy For All 4-H Livestock Handlers Concerning Extra-Label Drug Use.)

Transportation

Treat beef-cattle humanely during loading and unloading. Protect animals from unnecessary stress or injury due to transportation. Vehicles used to transport livestock should have non-slip floor surfaces and ramps.

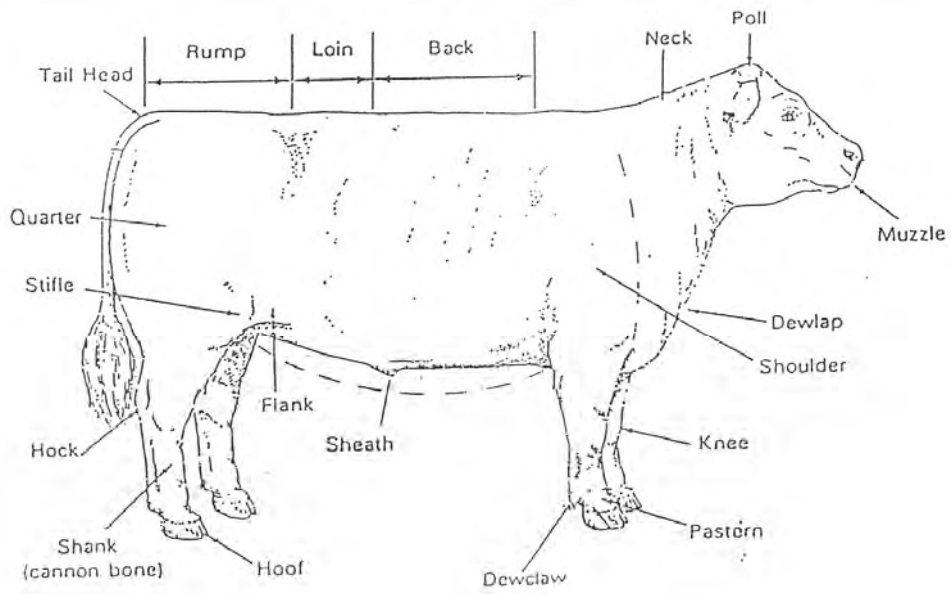
Showing

Any animal in the show ring that exhibits unsafe behavior and poses a safety hazard to the handler and other exhibitors should be excused from the ring or given adult assistance to quiet the animal. Excessive kicking, running or unruly nervousness warrants such consideration.



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You should be familiar with the signs of a sick calf. Some signs to look for are: Poor appetite, droopy ears, limping, diarrhea, rapid noisy breathing and dry crusty or runny nose.

You should know the phases of the project scored in the Supreme Champion Program are:

1. Live Placing
2. Record book
3. Written Test
4. Rate of Gain
5. Showmanship

You should know how to manage your market animal during the fair.

1. You should respect other people at the fair.
2. You should feed your market animal two times per day at the fair. Once before 8:00 a.m. and once between 6:00 and 7:00 p.m.
3. You should clean your pen two times per day, once in the morning and once in the afternoon/evening.
4. You should clean the alley in front of your pens every four hours.
5. You should wash your market steer before and after the show and before and after the sale for the minimum.
6. You should not leave your feed pans in the stall after feeding.
7. You should not leave your water trough in the stall after watering.
8. You should keep a neck rope on your market animal when tied in the stall.
9. Check your market animal every two hours during the day.
10. Make a plan on how to get to the show ring and the market sell ring from the stall.

You should know how to dress for the show ring.

1. Shirt with collar, No tank tops
2. Pants with a belt
3. No cap or hat
4. Hair combed

You should know the following things about your market animal before entering the show ring.

1. Breed of your market animal
2. Weight of your market animal
3. Birthdate of your market animal
4. Feed costs
5. Beginning weight at tagging
6. Number of pounds gained by market animal
7. Parts of the market animal (see attached page)
8. Know how to tie you animal up
9. Tag number of your animal

You should know how to figure the gain on your steer.

- A. Number of pounds gained, subtract the beginning weight from the ending weight to get the number of pounds gained.

End wt.	Beg wt.	Number lbs. gained
1175	- 640	= 535

B. How to project your gain on your budget sheet. Multiply the number of days in the feeding period by the number pounds you think your market animal will gain each day and add the beginning weight to this figure.

Exam ple

Number of days in the feeding period x projected daily gain
 $140 \times 3.0 = 420$ pounds

Pounds to be gained + beginning weight = projected ending weight of steer
 $420 + 700 = 1120$ pounds

You should know what to use in treating your market animal for the following external parasites:

1. Grubs (heel flies) - pour on's, Co-Ral, Spotton, Ivomec
2. Face flies - ear tags with insecticide, permethrin spray
3. Horn flies - ear tags with insecticide, fenvaluate spray & pour on
4. Lice - Co-Ral pour on dust, Rabon spray or dust bag, insecticide spray or dust

You should know the body parts of beef. (see attached sheet)

You should be able to identify grains, roughages, supplements, feed additives, vitamins, and minerals.

Feed					
<u>Grains</u>	<u>Roughages</u>	<u>Supplements</u>	<u>Additives</u>	<u>Vitamins</u>	<u>Minerals</u>
Corn	Alfalfa	Soybean	Molasses	A	Calcium
Milo	Grass Hay	Fish Meal	Fat	D	Phosphorous
Wheat	Milo Stalks	Cottonseed Meal	Whey	E	Potassium
Barley				K	Salt (Sodium
Oats				B-complex	Chloride)
Rye					Manganese
					Magnesium

You should be able to figure profit or loss from a given group of items and figures on a set of animals.

Enter the following items and information of the expenses and income page provided, and figure and profit or loss and your breakeven.

1. May 20 - You purchase 2 bull calves at \$300.00 each for a total of \$600.00
2. May 22 - You purchase one water trough for \$24.00
3. May 28 - You had the vet castrate 2 bull calves for a cost of 8.00 each for a total of \$16.00
4. May 30 - You purchase 3500 lbs. of feed for \$.08 per pound for a total cost of \$280.00
5. June 4 - You purchase a used feeder for \$20.00
6. June 5 - Your water bill for two months was \$40.00
7. June 6 - Your interest payment for two months was \$28.00
8. June 8 - You sold your two steers that weighed 1120 pounds and 1275 pounds for \$.80 per pound.

How to figure profit or loss:

- A. Subtract your total expenses from your total income. If, after subtracting, you have a positive number, you have a profit; if you have a negative number you have a loss.

Expenses		Income		\$1,916.00
\$1,008.00	08.00	\$1,916.00	16.00	<u>-\$1,008.00</u>
				0 = profit